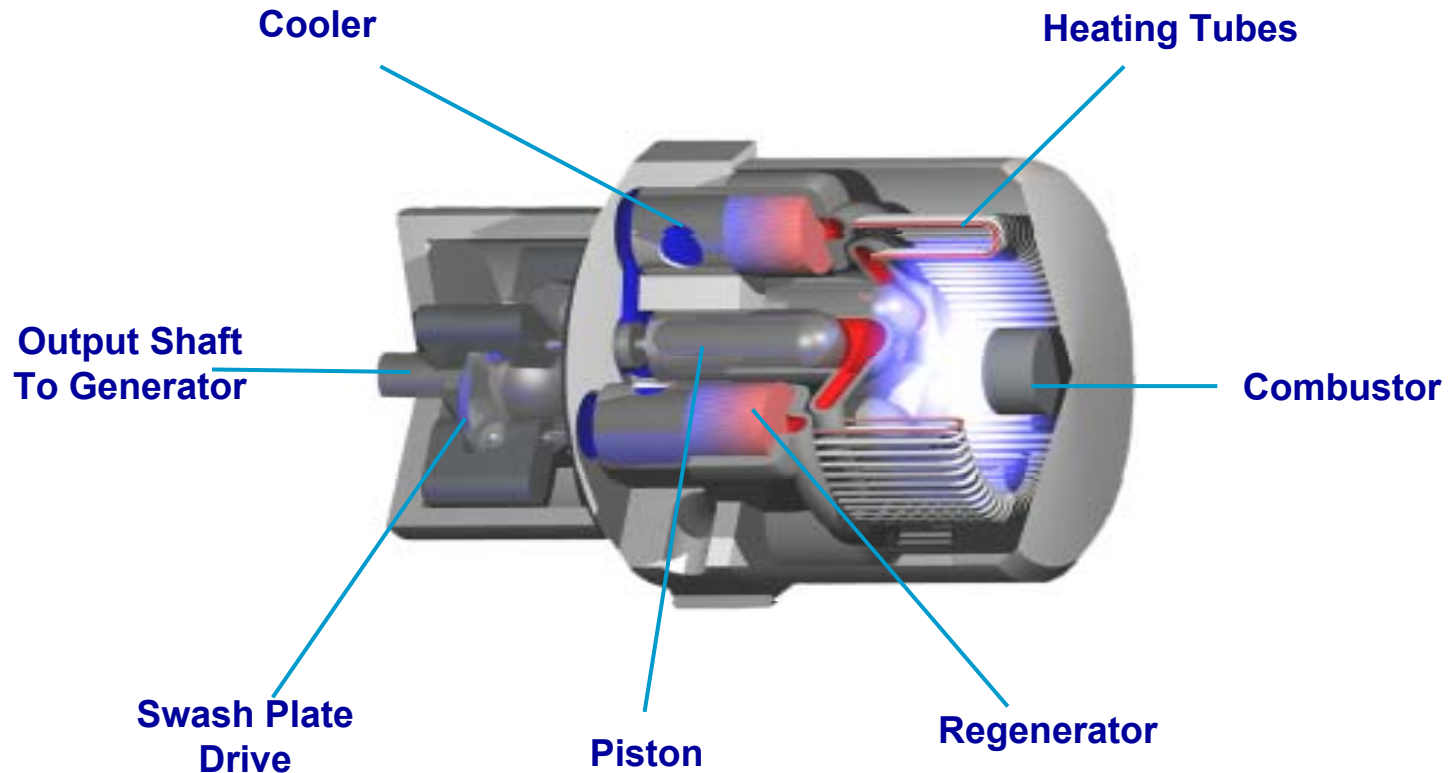


Company History

STM is the culmination of two decades of Stirling-cycle research and development, now poised to deliver commercial products to the market.

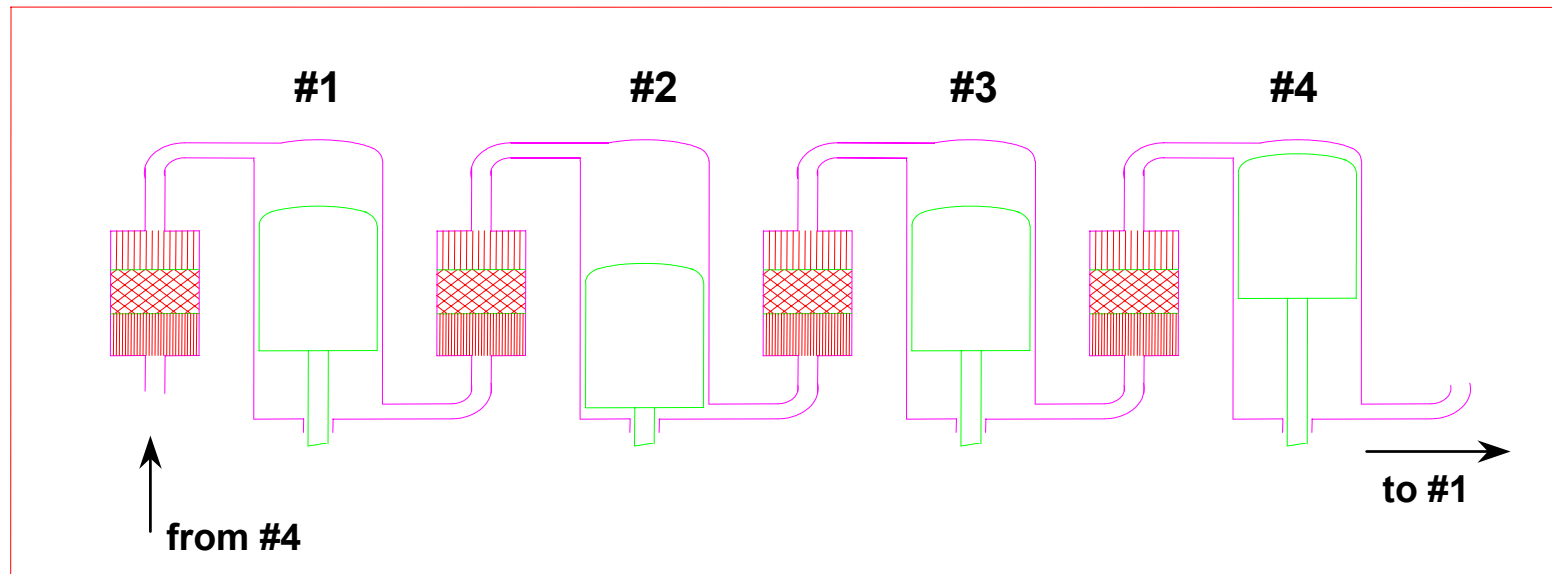
- **1979** - Originally organized as Stirling Thermal Motors. Lennart Johansson joined and revived the Company in 1990.
- **1994** solar program with SAIC, license agreement in 1999. Three solar installations developed. \$6 million in cost sharing from the U.S. Department of Energy.
- **1996 – 1998** engine development program (\$17 million) with General Motors. STM owns all intellectual property.
- **1998** hired PricewaterhouseCoopers Securities for shareholder value enhancement study.
- **1999** decision to build 10 alpha DG units and pursue partnerships with DTE Energy Technologies (NYSE:DTE) and Singapore Technologies Kinetics. (“SSE:ST”).
- **September 2000 – March 21, 2001** closing of \$25 million financing.
- **February 2002**, Thomas Hazlett joined as President and CEO (ex-President Caterpillar Engine Systems/Solar Turbine), Lennart Johansson became Chairman and CTO.
- **During 2002**, \$8.5 million financing with Alliant Energy Ventures, Hydrogenica Partners and shareholders.

STM Technology



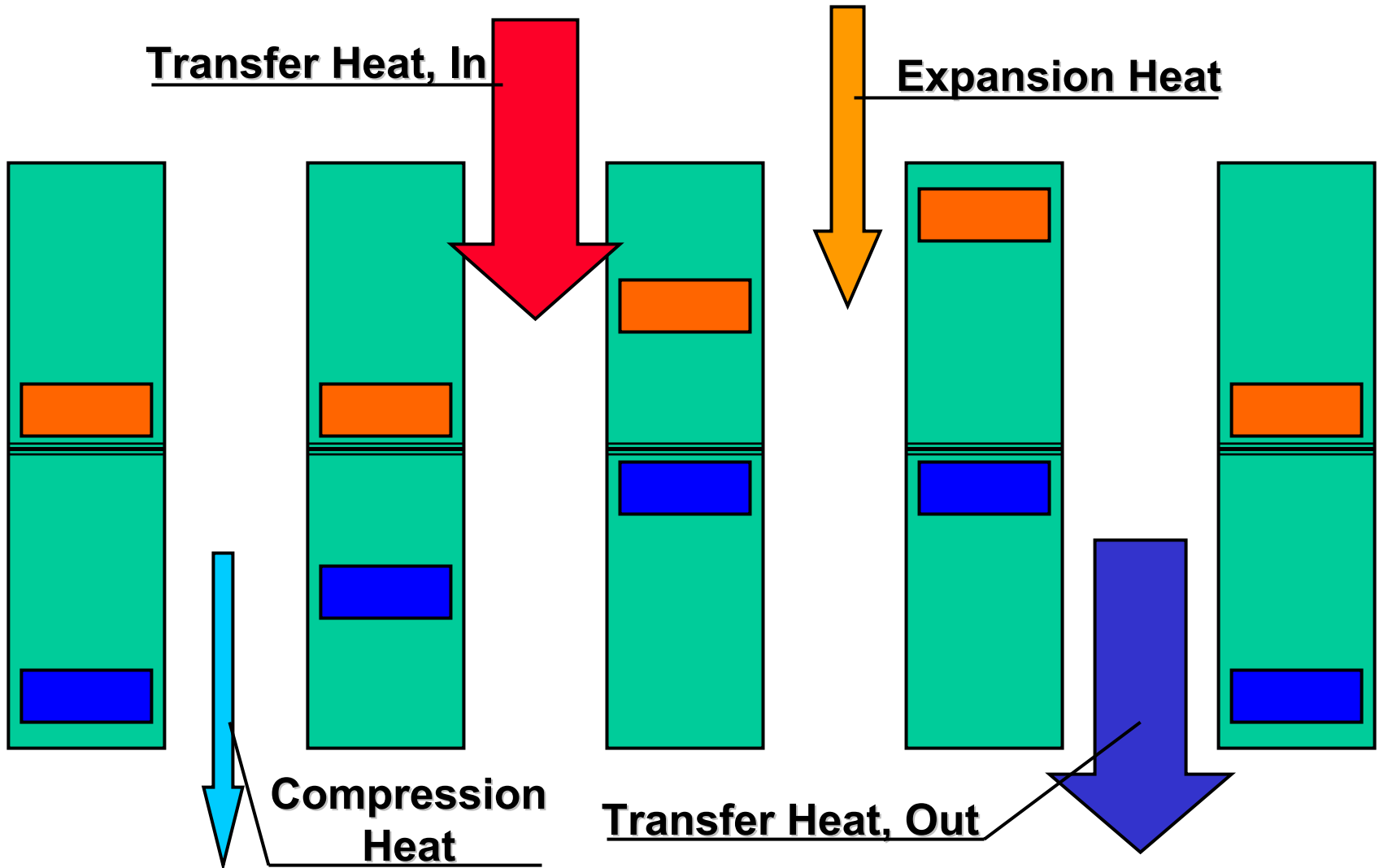
- Prime mover that converts heat to mechanical power using the Stirling-cycle principle
- 600 to 2,400 RPM for wide range of driven equipment applications
- 31 U.S. patents, 63 worldwide patents and applications, 50 disclosures
- 75,000 hours of alpha, beta and component testing
- \$70 million invested to date

The Double-acting Stirling Engine



A double-acting Stirling engine contains multiple (usually four) Stirling units. Each unit is made up of a compression space located under a given piston and an expansion space located above the adjacent piston.

Heat flow



STM Product - Modular 55 kW PowerUnit™

- **Fuel flexible**
 - Gas
 - Low BTU, low pressure methane
 - Propane
 - Hydrogen
 - Liquid
 - Almost anything that burns
 - No fuel
 - Waste Heat
- **Efficient**
 - 30.6% Net Electric
 - 80% CHP
- **Quiet**
 - 55 dBA at 7 meters
- **Clean**
 - Ultra-low NOX
 - Undetectable UHC
 - CARB 2003 compliant at full and part load
- **Low Maintenance**
 - Less than 0.8 cents/kWh
 - Fewer parts than competing product
 - Sealed oil system minimizes service
- **Cost**
 - Installed cost very competitive
- **Versatile**
 - Modular for higher power requirements
 - Fast and easy installation



PowerUnit

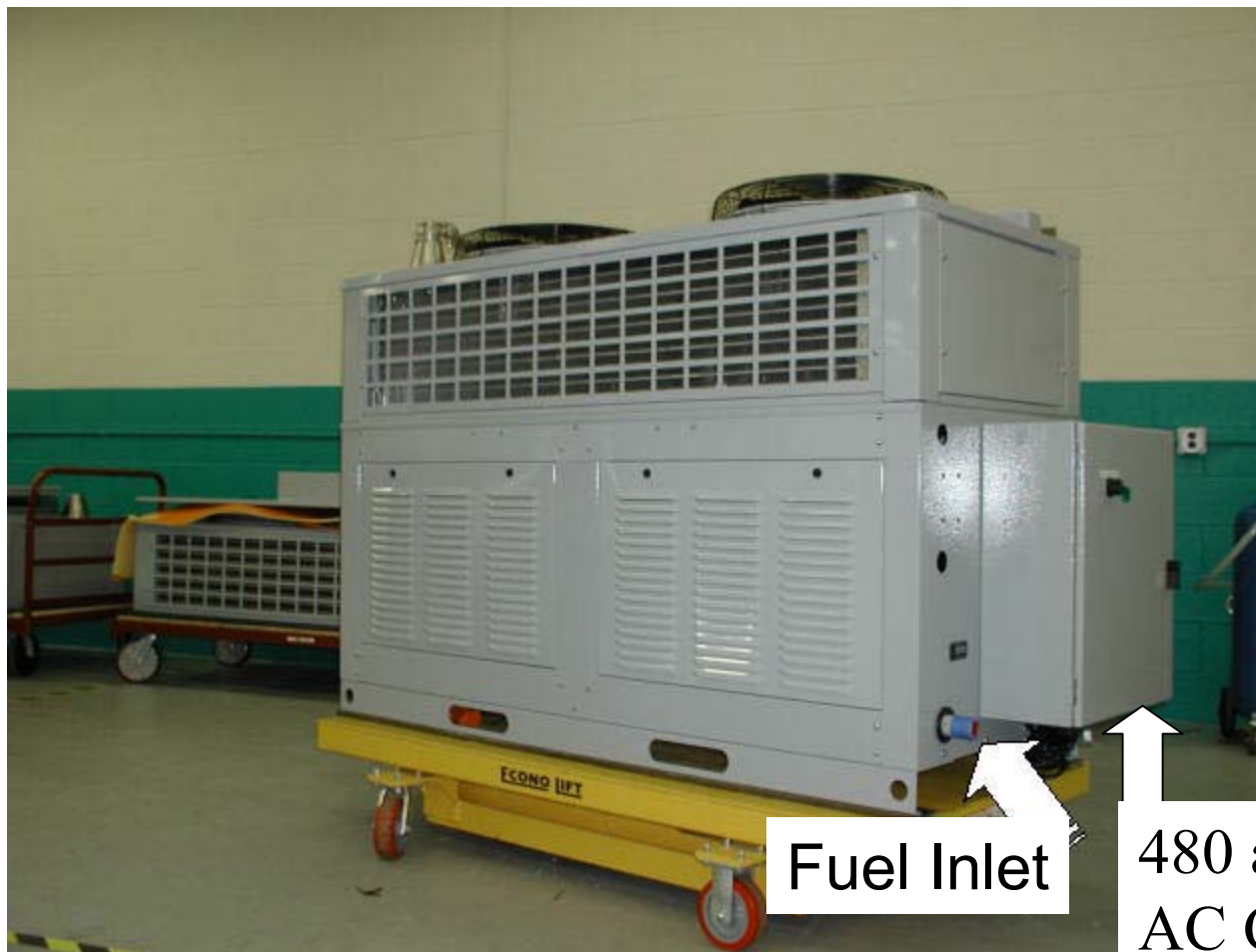


Multiple Unit Installation

STM Advantages

- Burns low BTU gases without de-rating (down to 300 BTU/scf)
- Low cost way to produce electricity and hot water
- Has ultra-low NOx emissions 0.15 g/bhp-hr (0.5 lbs/MWh)
- Has low maintenance cost (0.8 cents/kWh)
 - External combustion (products of combustion outside cylinders)
 - Fewer moving parts (compared to similarly sized IC engines)
- Low fuel gas pressure required (0.25 – 2.0 psig)
- Tolerant of higher levels of gas impurities (e.g. siloxanes)
- Modular units help improve gas utilization and reliability (landfills)
- Modular units help serve inside-the-fence power needs; no need for a power purchase agreement to sell back to utility (wastewater treatment plants)

STM Advantages



Fuel Inlet

480 and 120V
AC Connection

Fuel and Electrical Input Location

Installed Landfill Locations



50 kW Installation in Michigan



200 kW Installation in Michigan



Installed Wastewater Treatment Location in Oregon



Codes and Standards

CSA – Canadian Standards Association Mark

UL – Underwriters Laboratory Listing Mark

CE – Conformance Europeene Mark

CARB/EPA – California Air Resources Board/Environmental
Protection Agency Permits

UL 2200 – In Process with ITS Laboratories

UL 1741 – General Electric is a partner and supplier for the
electrical system

IEEE 1547 - Compliant